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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/661,598	NAKAJIMA, SATOSHI	
	Examiner	Art Unit	
	Blaine Basom	2173	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-6,10-12,15,19-21,25-27,30,34-36,40-42,45,47-49 and 51-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-6,10-12,15,19-21,25-27,30,34-36,40-42,45,47-49 and 51-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office action is responsive to the Request for Continued Examination (RCE) filed under 37 CFR §1.53(d) for the instant application on March 19, 2007. The Applicants have properly set forth the RCE, which has been entered into the application, and an examination on the merits follows herewith.

Response to Arguments

The Examiner acknowledges the Applicant's amendments to claims 1, 10-11, 15, 25-26, 30, 40-41, 45, 47, and 51, in addition to the Applicant's cancellation of claims 46, 50, and 54.

Regarding the pending claims, the Applicant argues that Cook (U.S. Patent No. 6,178,432 to Cook et al.) and Smith (U.S. Patent No. 6,222,537 to Smith et al.) – both presented in the previous Office Action – fail to teach transition rules that set display state variables of display state dimensions to one or more display state values in order to facilitate determination of a display state, as is expressed in each of independent claims 1, 10, 11, 15, 25, 26, 30, 40, and 41. The Examiner, however, respectfully disagrees with this argument.

As described infra, Cook describes objects – considered "cells" like claimed – whereby each object can have one or more associated "behaviors," the behaviors defining a relationship between an event, an action, and a target object: in response to the event (e.g. user input on the object), the particular action is performed on the target object, thus changing the state of the target object (see e.g. column 3, lines 27-38). For example, in response to user selection of an object, a second object may become visible in the user interface (see column 4, line 39-column 5,

line 11). Cook further suggests that each object is associated with a variable (e.g. a tag) denoting its state, i.e. if it is visible or not (see e.g. column 10, lines 5-34). Accordingly, it is apparent that a first object can have an associated behavior that changes the state of a target object (e.g. makes the target object visible) in response to user interaction with the first object, and which thus results in setting the value of the variable associated with the target object to one or more display state values (e.g. visible) in response to user interaction with the first object. It is further apparent that such variables are used in determining the current and next display states (i.e. the states of the objects) of the user interface. For example, Cook discloses that a "redraw event" requires notification of what objects are displayed and what are hidden (column 10, lines 27-34). As another example, Cook discloses that a "next" or "previous" command can be applied to a stack structure to display a next or previous object, respectively, within the structure, whereby an indication of the object within the structure that is currently displayed would necessarily be required in order to determine what object to display in response to the next or previous command (see e.g. column 9, lines 20-39). Accordingly, the Examiner respectfully maintains that Cook teaches that at least one of a plurality of object (i.e. cell) definitions has a behavior (i.e. transition rule) that sets one or more tags (i.e. display state variables of one or more display state dimensions) to corresponding one or more display state values (i.e. hidden or not) in response to user interaction with the object (i.e. display cell) specified by the at least one object, the setting to facilitate determining a display state of the user interface, like claimed.

The Applicant's arguments have thus been fully considered, but are not persuasive.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 4, 6, 10, 11, 15, 20, 21, 25, 26, 30, 35, 36, 40, 41, 45, 47-49, and 51-53 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,178,432, which is attributed to Cook et al. (and hereafter referred to as "Cook"). In general, Cook discusses interactive web pages (see e.g. column 1, lines 5-9). Cooks notes that with conventional web pages design, it is not possible for the end user to change the appearance of a web page; instead the user is limited to selecting links which cause different web pages to be displayed (see e.g. column 1, lines 30-55). Cooks attempts to overcome this limitation via interactive web page "objects," which provide dynamic web-based user interfaces without the need to continually download web pages (see e.g. column 2, line 51 – column 14). Such objects are considered "cells" like claimed, because they each define the constituting contents of a portion of the user interface.

Cook discloses that objects may be organized in a plurality of "structures," such as "groups," "stacks," and "switches" (see e.g. column 5, line 59 – column 6, line 14). Such structures are each considered a "display state definition" like claimed, because they comprise information that defines the appearance of a portion of the interface, for a given display state of the interface. Cook further discloses that one or more "behaviors" may be associated with each

object (see e.g. column 3, lines 27-38). A behavior defines a relationship between an event, an action, and a target object: in response to the event (e.g. user input on the object), the particular action is performed on the target object, thus changing the state of the target object (see column 3, lines 27-38). For example, Cook discloses that in response to the user selection of an object, a second object may become visible in the user interface (see column 4, line 39-column 5, line 11). Thus in response to the user interacting with a visible object, the client computer determines if any behaviors are associated with that object, and if so, uses these behaviors to ascertain which objects change state as a result of the user interaction (for example, see column 10, line 35 – column 11, line 40). By doing so, the client computer determines a new display state for the user interface in response to user interaction, the new display state defined by the state of each of the objects and the structures containing the objects.

Thus regarding claims 1, 15, and 30, Cook teaches receiving by the browser of a client device, from a remote server, a plurality of display state definitions (i.e. "structures") defining a plurality of instantiations of a user interface of an application for a plurality of display states of the user interface (see e.g. column 6, lines 24-45; and column 10, lines 5-27), wherein (1) at least one of the plurality of instantiations of the user interface corresponds to a multidimensional display state, the at least one instantiation defined by two or more display state definitions (see e.g. the instantiation of FIG. 3A and its corresponding hierarchical structured object list in FIG. 3B: the instantiation of FIG. 3A is defined by more than one display state definition, i.e. by a "BACKGROUND GROUP" structure, a "ROBIN GROUP" structure, a "TOM GROUP" structure, a "JILL GROUP" structure, an "ANNOTATION STACK" structure, and a "GREETING SWITCH" structure, as is shown in FIG. 3B), and (2) at least at least one of the

plurality of display state definitions includes a plurality of display cell definitions (i.e. "objects") correspondingly defining a plurality of display cells of a corresponding one of the plurality of instantiations of the user interface (see e.g. column 2, line 61 – column 3, line 14; and column 5, line 59 – column 6, line 14), as is recited in claim 1. As described above, Cook discloses that each object can have one or more associated "behaviors," the behaviors defining a relationship between an event, an action, and a target object: in response to the event (e.g. user input on the object), the particular action is performed on the target object, thus changing the state of the target object (see e.g. column 3, lines 27-38). For example, in response to user selection of an object, a second object may become visible in the user interface (see column 4, line 39-column 5, line 11). Cook further suggests that each object is associated with a variable (e.g. a tag) denoting its state, i.e. if it is visible or not (see e.g. column 10, lines 5-34). Accordingly, it is apparent that a first object (i.e. display cell) can have an associated behavior (i.e. transition rule) that changes the state of a target object (i.e. cell) in response to user interaction with the object, and which thus results in setting the value of the variable associated with the target object (i.e. cell) to one or more display state values (i.e. hidden or not) in response to user interaction with the display object (i.e. cell). It is further apparent that such variables are used in determining the current and next display states (i.e. the states of the objects) of the user interface. For example, Cook discloses that a "redraw event" requires notification of what objects are displayed and what are hidden (column 10, lines 27-34). As another example, Cook discloses that a "next" or "previous" command can be applied to a stack structure to display a next or previous object, respectively, within the structure, whereby an indication of the object within the structure that is currently displayed would necessarily be required in order to determine what object to display in

response to the next or previous command (see e.g. column 9, lines 20-39). Accordingly, Cook further teaches that at least one of the plurality of display cell (i.e. object) definitions has a transition rule (i.e. a behavior) that sets one or more display state variables (i.e. tags) of one or more display state dimensions (i.e. structures) to corresponding one or more display state values (i.e. hidden or not) in response to user interaction with the display cell (i.e. object) specified by the at least one display cell definition, the setting to facilitate determining by the client device a display state of the user interface, and whereby the client device locally examines the one or more display state variables (e.g. in response to a "redraw event," or in response to receiving a "next" or "previous" command) of the one or more display state dimensions to determine a current display state of the user interface, as is recited in claim 1. Lastly, Cook teaches provisioning by the client device, a current instantiation of the user interface in accordance with one or more of the display state definitions associated with the determined current display state (see e.g. column 12, lines 7-30). Cook thus teaches a method like that of claim 1. As per claims 15 and 30, Cook discloses that this method may be implemented by a browser on the client computer (see e.g. column 6, lines 24-45), which as known in the art, is implemented via programming instructions. A client computer storing and executing the browser of Cook is thus considered an article of manufacture like described in claim 15, and a client device like that described in claim 30.

Concerning claims 45, 47, and 51, an object displayed within an instantiation of a user interface is considered a "display cell" of the instantiation, as is described above. As further described above, Cook discloses that objects may be organized within a display state definition (i.e. a "structure"). Accordingly, each display state definition (i.e. structure) comprises a display

cell definition (i.e. an object), which defines a display cell of a corresponding instantiation of the user interface. As further described above, Cook teaches that at least one of the plurality of display cell (i.e. object) definitions has a transition rule (i.e. a behavior) that sets one or more display state variables (i.e. tags) of one or more display state dimensions (i.e. structures) to corresponding one or more display state values (i.e. hidden or not) in response to user interaction with the display cell (i.e. object), the setting to facilitate determining by the client device a display state of the user interface. Cook thus discloses that, in response to the user interacting with a visible object, the client computer determines if any behaviors are associated with that object, and if so, uses these behaviors to ascertain which objects change state as a result of the user interaction (for example, see column 10, line 35 – column 11, line 40). The client computer thus determines a current display state for the user interface, the new display state defined by the state of each of the objects. Accordingly, Cook further teaches determining, locally by the client device, a current display state of the user interface in accordance with a second display cell definition of a second of the display state definitions of the user interface for a second rendered display cell, i.e. object, of an immediately preceding instantiation of the user interface corresponding to an immediately preceding display state of the user interface, with which corresponding display cell a user interacted, the second display cell definition including a state transition rule (i.e. a behavior) that sets one or more display state variables (i.e. tags) of the one or more display state dimensions to the corresponding one or more display state values to facilitate the client device in determining the current display state as the display state of the user interface in the event a user interacts with the corresponding second rendered display cell.

As per claims 3, 48, and 52, an object displayed within an instantiation of a user interface is considered a "display cell" of the instantiation, as is asserted above. As further described above, Cook discloses that a plurality of such objects may be organized within a display state definition (i.e. a "structure"). Accordingly, each display state definition (i.e. structure) comprises a display cell definition, like claimed, which defines a display cell of a corresponding instantiation of the user interface. Cook thus teaches generating by the client device a first display cell (i.e. object) of the current instantiation of the user interface in accordance with a first display cell definition of one of the one or more display state definitions (i.e. structures) associated with the current display state.

Concerning claims 4, 49, and 53, a current instantiation of the user interface of Cook may comprise multiple objects (see e.g. FIG. 3A), which as described above, are each considered a display cell. Cook, that is, teaches generating by the client device a second display cell of the current instantiation of the user interface in accordance with a second of the one or more display cell definitions of the same or another of the one or more display state definitions (i.e. structures) associated with the current display state.

As per claims 6, 20, and 35, Cook demonstrates that a current instantiation of the user interface may be multidimensional, or in other words, defined by a plurality of display state definitions, i.e. structures (see e.g. the instantiation of FIG. 3A and its corresponding hierarchical structured object list in FIG. 3B: the instantiation of FIG. 3A is defined by more than one display state definition, i.e. by a "BACKGROUND GROUP" structure, a "ROBIN GROUP" structure, a "TOM GROUP" structure, a "JILL GROUP" structure, an "ANNOTATION STACK" structure, and a "GREETING SWITCH" structure, as is shown in FIG. 3B).

Concerning claim 21, Cook teaches that the user interface provision function is part of a browser, as is described above in the rejection for claims 1 and 15.

Regarding claim 36, it is understood that the above-described method of Cook may be implemented on any type of client computer having a browser for receiving web pages and running java applets (for example, see column 6, lines 24-45). Consequently, it is understood that such a client computer may be a wireless telephone, a palm sized computer device, or a notebook sized computing device, which are all well-known computers capable of having such a browser.

As per claims 10, 25, and 40, Cook teaches, as described above in the rejection for claim 1, provisioning locally by a client device a first instantiation of a user interface of an application for a current display state of the user interface in accordance with at least a first one of a plurality of display state definitions (i.e. "structures") defining a plurality of instantiations of the user interface, including the first instantiation, for a plurality of display states of the user interface, including the first display state, with at least one of the plurality of instantiations of the user interface corresponding to a multidimensional display state, the at least one instantiation defined by two or more of the plurality of display state definitions. Cook further teaches, like described above in the rejection for claims 1 and 45, that at least a first one of the plurality of display state definitions includes a plurality of display cell definitions correspondingly defining a plurality display cells (i.e. objects) of the first instantiation of the user interface, with at least one of the plurality of display cell definitions having a transition rule (i.e. a behavior) that sets one or more display state variables (i.e. tags) of one or more display state dimensions to corresponding one or more display state values (i.e. hidden or not) in response to user interaction with the content of

the display cell specified by the at least one of the plurality of display cell definitions, the setting to facilitate the client device in determining a next display state to transition to, when the content of the display cell is interacted with by a user. Moreover, for the reasons described above in claim 1, Cook teaches: determining locally by the client device the display state of the user interface to be the next display state based on the one or more display state variables of the one or more display state dimensions corresponding to the one or more display state values set in response to the user interaction; and provisioning by the client device the next instantiation of the user interface corresponding to the determined next display state of the user interface, in accordance with at least a second one of the plurality of display state definitions defining at least partially the next instantiation of the user interface. Cook thus teaches a method like that of claim 10. As per claims 25 and 40, Cook discloses that this method may be implemented by a browser on the client computer (see e.g. column 6, lines 24-45), which as known in the art, is implemented via programming instructions. A client computer storing and executing the browser of Cook is thus considered an article of manufacture like described in claim 25, and a client device like described in claim 40.

With respect to claims 11, 26, and 41, Cook teaches, as described above in the rejections for claims 1 and 45, transmitting by a server to a remote client device, a plurality of structures (i.e. display state definitions) defining a plurality of instantiations of a user interface of an application for a plurality of display states of the user interface, with at least one of the plurality of instantiations of the user interface corresponding to a multidimensional display state, the at least one instantiation defined by two or more of the plurality of structures (for example, see column 10, lines 5-27). Moreover, Cook teaches that at least one of the plurality of structures

includes a plurality of display cell (i.e. object) definitions, as is described above in the rejection for claim 45. Cook discloses that at least one of the plurality of display cell definitions has a transition rule (i.e. a behavior) that sets one or more display state variables (i.e. tags) of one or more display state dimensions to one or more corresponding display state values (i.e. hidden or not) in response to user interaction with the display cell specified by the at least one of the plurality of display cell definitions, the setting to facilitate determining by the remote client device a display state of the user interface, as is further described above in the rejections for claims 1 and 45. Cook discloses that such display cell definitions specify the constituting contents for a corresponding display cell (i.e. object) of at least one of the plurality of instantiations of the user interface, whereby the server transmits to the remote client device, the constituting contents for the display cell for rendering an instantiation of the plurality of instantiations of the user interface on the remote client device in accordance with the display cell definition (see e.g. column 10, lines 5-27). Accordingly, Cook teaches a method like that of claim 11. As per claims 26 and 41, Cook discloses that such objects and their constituting contents are stored on, and transmitted from, a server (see e.g. column 6, lines 15-45). Such a server used to implement the method of Cook is considered an "application server" like that described in claim 26, and a server like that described in claim 41.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5, 12, 19, 27, 34, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over the U.S. Patent of Cook, which is described above, and also over U.S. Patent No. 6,222,537, which is attributed to Smith et al. (and hereafter referred to as "Smith"). As shown above, Cook presents a method like that of claims 1 and 11, an article of manufacture like that of claim 15, a server like that of claims 26 and 41, and a client device like that of claim 30, whereby a client device provides an instantiation of a user interface in accordance with one or more display state definitions (i.e. structures) received from a server. Similarly, and for the reasons described above, Cook is considered to teach a method, product, and client device for generating a first and second portion of a user interface, each portion being in accordance with an object definition for an object of the interface, and whereby the object definition specifies constituting contents for the display object. Cook, however, does not explicitly disclose that a portion of the user interface is generated with constituting contents inherited from a pseudo instantiation of the user interface, as is expressed in each of claims 5, 12, 19, 27, 34, and 42.

Like Cook, Smith presents user interface objects, referred to as "controls," which may be provided within web pages, and which may exist in one of a plurality of states (for example, see column 1, lines 50-62; and column 2, lines 32-45). Additionally like the objects of Cook, which are implemented via the Java programming language (for example, see column 6, lines 24-45 of

Cook), the controls described by Smith are implemented via Java code (for example, see column 8, lines 33-39 of Smith). Regarding the claimed invention, Smith discloses that each control may inherit properties from a pseudo control, namely a "Control" component (for example, see column 8, line 50 – column 9, line 20). Smith thus teaches inheriting properties based on a pseudo instantiation of the user interface. The benefits of inheritance are well known in the programming realm.

Consequently, it would have been obvious to one of ordinary skill in the art, having the teachings of Cook and Smith before him at the time the invention was made, to modify the objects of Cook such that they inherit constituting contents from a pseudo object, as taught by Smith. It would have been advantageous to one of ordinary skill to utilize this combination, because such pseudo objects reduce the amount of code required to be written for each object, as is demonstrated by Smith.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blaine Basom whose telephone number is (571) 272-4044. The examiner can normally be reached on Monday through Friday, from 8:30 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca can be reached on (571) 272-4048. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

btb
5/25/2007

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